



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/773,353

02/05/2004

William R. Ratcliffe

024-25-001

6816

23935

7590

12/07/2005

KOPPEL, JACOBS, PATRICK & HEYBL
555 ST. CHARLES DRIVE
SUITE 107
THOUSAND OAKS, CA 91360

EXAMINER

MAY, ROBERT J

ART UNIT

PAPER NUMBER

2875

DATE MAILED: 12/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/773,353

Applicant(s)

RATCLIFFE, WILLIAM R.

Examiner

Robert May

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-32 is/are pending in the application.
- 4a) Of the above claim(s) 9 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-13 is/are allowed.
- 6) ☒ Claim(s) 1,2,4-6,14,17-19,22 and 25-29 is/are rejected.
- 7) ☒ Claim(s) 3,7,8,15,16,20,21,23,24 and 30-32 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Claim Objections

Claims 28 and 29 recite the limitation "resistive members" in the 3rd line of each claim. There is insufficient antecedent basis for this limitation in the claim.

Claims 30-31 are objected to because they depend from claim 29.

Withdrawal of Indicated Allowability

The previously indicated allowability is withdrawn in view of the newly discovered reference(s) to US Patents Shen and Liu. Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2 are rejected under 35 U.S.C. 102(e) as being anticipated by Shen (US Pat 6,840,655). Shen discloses in Figure 1, a plurality of light emitting elements 12 that are coupled between two elongated metal conductors 20 which are spaced apart

Art Unit: 2875

and imbedded with a flexible plastic tube (Col 1, Lines 66-67) which define a light guide hole 13 that directs the light from each LED and better projects the light sideways (Col 1, Lines 55-56).

Claims 5-6, 14, & 28-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Liu (US Pat 6,604,841). Liu discloses in Figure 5, a rope light with 3 elongated conductors 21 separated by a spacer or insulator 2 made of a transparent PVC (Col 2, Lines 63) which define apertures 23 in which each of the plurality of LED's 31 reside which are coupled via wires 311 between the conductors 21 as shown in Figure 6. An outer tube 1 or polymer member made from transparent PVC (Col 2, line 61) surrounds the spacer 2 and conductors 21. Furthermore, Liu discloses reflective holding terminals or redirectors 32, which can act as a spacer in between the conductors 21.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 17-19, 22, & 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu in view of Shen.

Regarding Claims 17, & 25-27 Liu discloses in Figure 5, a rope light with a first and second elongated conductor 21, a spacer or core 2 made of a transparent PVC (Col 2, Lines 64-65) between the conductors 21, a plurality of Light emitting elements 31 coupled via a wire 311 each residing within an aperture 23 defined by the spacer 2 but fails to teach the spacer as defining a redirector defined by the applicant in specification on page as either a reflecting wall or refracting wall which redirects the light from each of the light emitting elements. However, Shen discloses in Figure 1, an LED light set in the form of a tube with two metallic conductors, a plurality of LEDs and a spacer or plastic core that defines a light guide hole 13 for directing the light from each of the plurality of LEDs in order to provide a better sideways illumination (Col 1, Lines 55-56). Therefore, it would be obvious to one of ordinary skill in the art to modify the LED rope light of Liu with the core of Shen that defines a light guide hole 13 in order to provide for a better sideways illumination.

Regarding Claims 4, 18 –19, & 22, Shen fails to explicitly disclose the light guide hole 13 as being substantially concave or parabolic in shape but instead is disclosed as being v-shaped shown in Figure 5, however it would be generally obvious to one of ordinary skill in the art to change to the light guide hole to a concave, parabolic, or cup shaped profile for reducing stress risers at the point where the two sides of the hole

meet by having a radius instead of a sharp corner in order to enhance the mechanical integrity of the light. Therefore, it would be obvious to modify the light guide hole of Liu in view Shen with the concave, parabolic, or cup shaped profile in order to reduce the stress risers at the junction so to enhance the mechanical integrity of the light.

Allowable Subject Matter

Claims 10-13 are allowed.

Claims 7-8, 15-16, 20-21, 23-24 & 30-31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance:

Regarding Claims 7-8, the prior art does not teach or suggest the structure of Claim 5 wherein the light emitting elements have a resistive member carried over at least one of the anode and cathode surfaces of the light emitting elements.

Regarding Claims 10-13, the prior art teaches all of the elements of Claim 10 except for tabs in which the light-emitting element is coupled between the second conductor and one of said tabs.

Regarding Claims 15-16, the prior art teaches all of the claimed elements except for a plurality of resistive members that are each carried over at least one of the anode and cathode surfaces of a respective one of said light-emitting elements.

Regarding Claim 20, the prior art teaches all of the claimed elements of Claims 14-17 except for first and second light redirectors that diverge with increasing distance from said aperture.

Regarding Claim 21, the prior art teaches all of the claimed elements of Claims 14-17 except for a phosphor film carried on said light redirectors to enhance light radiated by the light-emitting elements.

Regarding Claim 23-24, the prior art teaches all of the claimed elements of Claims 14-17 except for the spacer defining an array of cup-shaped light redirectors that each surround a respective one of said light-emitting elements.

Regarding Claims 30-32 the prior art teaches all of the elements of Claims 14 & 29 except for a polymer member that defines a mounting surface, flange or outward-extending rib.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fan (US Pat 6,796,681) discloses an elongated light source with a pair of elongated conductors with a spacer or core separating the conductors. Loamorte (US Pat 3,290,539) discloses an array of light emitting elements residing

within apertures that are formed by the spacers and having two conductive elements (17 and 20).

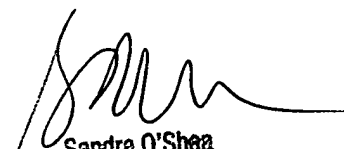
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert May whose telephone number is (571) 272-5919. The examiner can normally be reached between 9 am– 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax number for the organization where this application or proceeding is assigned is (571) 273-8300 for all communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval PAIR system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RM

11/16/2005


Sandra O'Shea
Supervisory Patent Examiner
Technology Center 2800